

GEOCENTRISM AS A HUMILIATION FOR MAN*

RÉMI BRAGUE
Sorbonne University

I. *A text by Freud*

Everybody knows the celebrated essay *A Difficulty in the Path of Psychoanalysis* in which the founding father of this new approach in depth psychology explains why some people are reluctant to admit the sexual origin of neuroses. He draws a parallel with the misgivings that some earlier scientific theories are supposed to have aroused in their opponents. In this connection, he mentions two scientific revolutions with far-reaching consequences: Copernicus' heliocentric cosmology and Darwin's theory of evolution. According to Freud, those two thinkers have a common point: both inflicted a wound that it could hardly bear to human narcissism. The former showed man that he does not live at the midpoint of the universe; the latter prevented him from considering himself as the high point of life. As for Freud himself, he is supposed to have shown to proud reason that she is not even the queen of her own home, that she houses in her palace a far more dangerous and compromising rival than imagination, whose traps classical rationalism contented itself with exposing.

In this paper, I will refrain from asking the general question as to what validity we can ascribe to what Hans Blumenberg called a "paratheory,"¹

* The generosity of the Alexander von Humboldt Foundation enabled me to work in the university libraries of Cologne (Thomas-Institut, Martin Buber-Institut, Orientalisches Seminar) while preparing this paper. A shorter version was published in French as "Le géocentrisme comme humiliation de l'homme," in R. Brague and J.-F. Courtine, ed., *Herméneutique et Ontologie. Mélanges en l'honneur de P. Aubenque* (Paris: Presses universitaires de France, 1990), pp. 203-223. The present text exists in a German version: "Geozentrismus als Demütigung für den Menschen," in *Internationale Zeitschrift für Philosophie*, 1/1994, 1-24. The present English version owes a great deal to Tom Rockmore (Duchesne University).

¹ I borrow the word from H. Blumenberg, *Die Genesis der kopernikanischen Welt* (Frankfurt a. M.: Suhrkamp, 1981), pp. 316, 762, and 803. Blumenberg sees very clearly that the Copernican revolution was made bearable for Renaissance man through a transposition of anthropocentrism to an ideal ground (a process thanks to which anthropocentrism became far more radical and pretentious than in so-called mediaeval anthropocentrism, in which man had to share his central position with the other inhabitants of the earth), a transposition that enables man to do without the physical dimension of anthropocentrism (see *op. cit.*, pp. 47, 91, 244,

that is, a theory that claims to be able to explain even the resistance of its own adversaries. E.g. "you reject the theory of capitalistic exploitation because of the unconscious influence of bourgeois ideology on your mind, etc." In the same way, I will only allude to the difficulty it faces with respect to its theory of resistance. For either resistance has a weak cause, and we cannot explain why it held sway so decisively and for so long; or it is a strong cause, and we are hard put to it to explain how it could be removed. Furthermore, I will not even consider the somewhat narcissistic lack of modesty in the person of Freud, who does not hesitate to name himself in the same breath as the greatest scientists of the past in order to focus exclusively on his text. Finally, I will neglect Freud's remarks on Darwinian evolution and Freudian psychoanalysis, because I have nothing very special to say about them. I will concentrate on the meaning of what others, but not Kant, have called the "Copernican revolution."

To begin with, it may be apposite to hear once again the passage by Freud, in order to refresh our memories. I quote only the passage on the first wound, i.e. the one Copernicus is said to have inflicted to man's geocentric pride:

In the early stages of his researches, man believed at first that his dwelling-place, the earth, was the stationary center of the universe, with the sun, moon and planets circling round it. In this he was naively following the dictates of his sense-perception, for he felt no movement of the earth, and wherever he had an unimpeded view he found himself in the center of a circle that enclosed the external world. The central position of the earth, moreover, was a token to him of the dominating part played by it in the universe and appeared to fit in very well with his inclination to regard himself as lord of the world. The destruction of this narcissistic illusion is associated in our minds with the name and work of Copernicus in the sixteenth century (. . .). When this discovery achieved general recognition, the self-love of mankind suffered its first blow, the cosmological one.²

325, 565). According to Blumenberg, this is only an aspect of the impossibility to surpass every form of anthropocentrism that recurs under other masks as egocentrism or "nastrocentrism," i.e. the primacy of the present over the past (see *op. cit.*, pp. 97f., 108, 201, 272). In the same way, Blumenberg sees clearly that what is humiliating for man in the medieval model includes the fact that the center is not an honorable place but only the place of the Devil (*op. cit.*, pp. 40, 312); the earth is lowly and unworthy, because it is central (*op. cit.*, pp. 162, 215 and 518); it has to undergo all kinds of influxes (*op. cit.*, pp. 166f.); and it represents what can be termed a settling at the bottom of the world (*op. cit.*, p. 793). From time to time, however, Blumenberg lets slip phrases that support the "blow to human narcissism" theory (see *op. cit.*, p. 374: "geborgen in der Mitte der Welt"). See also *op. cit.*, p. 99 (corrected p. 106).

² "Eine Schwierigkeit der Psychoanalyse" (Imago, V, 1917), in *Gesammelte Werke*, Frankfurt/Main, Fischer 1966 (3d ed. = 1947), XII, pp. 3-12, cited on p. 7. See "A Difficulty in the Path of Psychoanalysis," in *The Standard Edition of the Complete Psychological Works of Sigmund Freud*, trans. J. Strachey, (1917-1919) (Hogarth Press, London, 1955), vol. XVII, pp. 139f. In the same year, the same text, almost word for word, was reproduced in *Introduction to Psycho-analysis*,

II. *The prehistory of an idea*

This text by Freud takes up a comparison between Copernicus and Darwin that he did not originate himself. To the best of my knowledge, its first exponent was Ernst Haeckel, a popular philosopher and advocate of positivism during the late 19th century.³ Of course, the founder of "monism" does not mention psychoanalysis. Nevertheless, he draws a parallel between Copernicus and Darwin.

As far as the idea of a first, allegedly Copernican "blow," it would be quite a fascinating task to write its history. But this would go far beyond the limits of the present essay. Nevertheless, without aiming at completeness, I would like to mention two important examples. In the first evening of his *Entretiens sur la pluralité des mondes*, a popular account of modern astronomy, published in 1687, Fontenelle writes:

Figurez-vous un Allemand (!) nommé Copernic (. . .). Saisi d'une noble fureur d'Astronome, il prend la Terre et l'envoie bien loin du center de l'Univers, où elle s'était placée, et dans ce center, il y met le Soleil, à qui cet honneur était bien mieux dû (. . .). Je lui sais bon gré d'avoir rabattu la vanité des hommes, qui s'étaient mis à la plus belle place de l'Univers, et j'ai du plaisir à voir présentement la terre dans la foule des Planètes (. . .). La même inclination qui fait qu'on veut avoir la place la plus honorable dans une cérémonie, fait qu'un Philosophe dans un système se met au centre du Monde, s'il peut. Il est bien aise que tout soit fait pour lui; il suppose peut-être sans s'en apercevoir ce principe qui le flatte, et son coeur ne laisse pas de s'intéresser à une affaire de pure spéculation.⁴

One century and a half later, the Italian poet Giacomo Leopardi expresses the same idea in his dialogue *Il Copernico*. But, unlike Fontenelle's urbane banter, he does that in a jeering mode. The sun is tired of having to rise every morning in order to illuminate a puny speck of dust. From now on, the Earth will have to shift for itself and do the tedious job. Copernicus raises several objections against the new state of affairs. One of them is psychological in nature:

The Earth until now has held the first place in the universe, which is to say the middle; and (. . .) she herself being motionless, with no other occupation than to look around her, all the other globes of the universe, the

ch. 18. Finally, Freud quotes himself again in *Die Widerstände gegen die Psychoanalyse* (1925), GW, XIV, p. 109/SE, XIX, p. 221.

³ Ernst Haeckel. *Natürliche Schöpfungsgeschichte*. Gemeinverständliche wissenschaftliche Vorträge über die Entwicklungslehre (Berlin: Reimer, 1868, 1874), p. 35. The proof of Freud's dependence to Haeckel was given by Assoun. See P.-L. Assoun, *Introduction à l'épistémologie freudienne* (Paris: Payot, 1981, pp. 197ff.). (I owe the reference to Assoun's book to Prof. Yvon Bres).

⁴ "First Evening," in Fontenelle, *Entretiens sur la pluralité des mondes*, édition critique avec une introduction et des notes par A. Calame (Paris: Didier, Paris, 1966), pp. 28ff.

greatest no less than the smallest, and similarly the brightest along with the most dim, have gone rolling over and under and beside her without ceasing; with a haste, a bustle, a frenzy astonishing to think of. And so, all things appearing to be busy in her service, it seemed that the universe was of a nature of a court; in which the earth sat as on a throne; and the other globes around, in the manner of courtiers, guards and servants, attended some to one office and some to another. So that, in effect, the Earth has always thought herself empress of the universe (...). And then, what shall I tell you of men? For considering ourselves, more than the first and more than supreme among earthly creatures; each one of us (...) has thought of himself of a certainty to be an emperor (...) of the universe; an emperor of the sun, of the planets, of all the stars both visible and invisible; and the final cause of the stars, of the planets, of your illustrious lordship (i.e. the sun), and of all things. But now if we want the Earth to leave her place in the middle; if we make her run, and revolve, and toil perpetually, and perform those things, no more and no less, that have hitherto been performed by the other globes; in short, to become one of the planets; this will imply that Her Terrestrial Majesty, and Their Human Majesties, will have to vacate the throne, and relinquish the empire (...). This business of ours will not be so purely material, as it appears to be at first sight; and (...) its effects will not pertain solely to physics: for it will upset the degrees of importance of things, and the hierarchy of beings; it will alter the purposes of creatures; and so doing it will cause a vast upheaval even in metaphysics.⁵

Therefore, we can see that Freud does not stand alone. On the contrary, he has several forerunners. I prefer to focus on his text, however, for two reasons. First, because Freud conveys his idea here with great clarity and seriousness. Second, because of his great fame; for Freud's authority has contributed to secure for this view of the astronomical revolution an almost universal dominance, so that it is commonly accepted by the layman and many scholars as well, e.g. R. Carnap.⁶

Even if I limit myself to Freud's statement, it is beyond the scope of the present discussion to scrutinize and to evaluate it in detail. This would involve giving an account of the whole intellectual atmosphere before and after Copernicus—an almost infinite task which can scarcely be carried out in an original manner since so much scholarly work has already been devoted to this topic. Neither can I claim to show that "modern consciousness" remains untouched by the discoveries of modern astronomy from the 16th Century onwards.⁷ I will content myself merely with examining the central thesis that can be paraphrased most briefly as the assertion that geocentrism put man

⁵ Giacomo Leopardi, *Operette morali*. Introduzione, note e commenti di Paolo Ruffilli (Milano: Garzanti, 1992) p. 284; I quote: *The Moral Essays*. *Operette morali*, Translated from the Italian by Patrick Creagh, New York, Columbia U.P., 1983, pp. 195f.

⁶ See R. Carnap, "Psychologie in physikalischer Sprache," in *Erkenntnis*, 3 (1932/33), p. 110, cited in Blumenberg, *op. cit.*, p. 710.

⁷ Bibliography in the footnotes of the (slightly disappointing) book by Fernand Hallyn, *La structure poétique du monde*. Copernic, Kepler (Paris: Seuil, 1987). According to Marjorie H.

at the peak of the physical universe. When another cosmological model replaced it, man was demoted. The proud king of creation became a self-conscious beggar. This view is, I repeat, largely admitted. It is almost taken for granted.

III. *Two models of centrality*

Now, I contend that what Freud says in the passage quoted above is untrue, even that the contrary is true. Now, this claim is neither a paradox, nor even very original. On the contrary: I am belaboring what, for some people at least, is obvious. Many texts that I will quote come from the works of other people, especially from A.O. Lovejoy, C.S. Lewis and the Italian scholar P. Rossi.⁸ Nevertheless, I will add several texts that come mainly from the Jewish and Muslim Middle Ages. To the best of my knowledge, although they are very relevant, they never so far have been quoted in that context. These texts bear witness to my thesis that can be summarized as follows: according to the pre-Copernican world-view, the central place of Earth is anything but a place of honor. Of course, the center is exactly that in the field of human societies. But this does not hold true in an astronomical context. In astronomy, the center is a humble place, even the humblest of all places.

I must make an important distinction from the outset. I will distinguish the vulgar view of the world, how the well-known "man in the Clapham omnibus" sees the world, on the one hand, and the results of philosophical and/or scientific research on the other hand. What Freud calls "the beginning of human research" was, as a matter of fact, the result of centuries of protracted inquiry on the part of Babylonian, Greek and other astronomers. According to the oldest view of the physical universe we know of, the Earth is not round, but flat. It is not in the center, but down, under the sun and the sky, the lofty abode where superior beings dwell: "*Ihr wandelt droben im*

Nicolson, for whom "the Copernican hypothesis disturbed man little, indeed disturbed the layman not at all," what did disturb people was not heliocentrism, but the discovery of new stars. See *The Breaking of the Circle. Studies in the Effect of the "New Science" upon Seventeenth Century Poetry* (New York: Columbia U.P./Oxford U.P., 1960), p. 115. The chapter 3 is devoted to this thesis. See "World," in *op. cit.*, pp. 115-122.

⁸ In chronological order: A.O. Lovejoy, *The Great Chain of Being. A Study of the History of an Idea* (Cambridge: Harvard U.P., 1950), pp. 101-108, n. 4-14; E.M.W. Tillyard, *The Elizabethan World Picture* (London: Penguin, 1972); Marjorie H. Nicolson, *op. cit.*; C.S. Lewis, *The Discarded Image. An Introduction to Medieval and Renaissance Literature* (Cambridge: University Press, 1964), 232 p. (quoted: *DI*), especially pp. 55, 58, 62f.; id., *English Literature in the Sixteenth Century excluding Drama* (Oxford: Clarendon Press, 1954), VII-696 p., (here: *EL*), especially pp. 2f. For an essay that relies mainly on Lovejoy, see Paolo Rossi, "Nobility of Man and Plurality of Worlds," in A.G. Debus, ed., *Science, Medicine and Society in the Renaissance: Essays to honor Walter Pagel* (London, 1972), vol. 2, pp. 131-162.

Licht, Ihr himmlischen. . ."⁹ In this case, the Earth is a place of humility, but we cannot speak of it as being the center of the universe. The only representation of a centrality we can have is the relation of a point to a circle, both being located on the same surface. The center can be a place of honor. But this is the case if, and only if, it is located on a surface. For instance, being located at the center may enable us to be "the observed of all observers"—provided the observers are admirers, as, e.g., a pillory must be in the center. Conversely, the middle part in a battle-field is the point from which we can most easily control and dominate the surrounding area.

This model of centrality is merely practical in nature. It is and remains dominant in everyday life. The common man (and we are all of us common people) imagines he is standing on a surface. For him, the Copernican revolution never took place. In former times, this view gave birth to more or less mythical representations, such as the idea of Jerusalem as the navel of the Earth, or the "Middle Kingdom" of Chinese thought. At present, it survives under the guise of metaphors, e.g., virtue is in the middle, etc. We are, then, tempted to transfer what is true in the anthropological realm to cosmological phenomena. Therefore, we suppose that a place of honor becomes the Earth, because it is located at the center of the universe. This is the very temptation to which Freud yielded. He unconsciously transferred what is true for man to the world of objects. The mistake he makes must receive the only name it deserves, i.e. anthropomorphism.

Now, in an astronomical context, anthropomorphism is not self-evident. What is true for a surface and its center is not so for a sphere. The common view of the world that expresses itself in everyday language presupposes that the world is flat. But ancient scientific astronomy did not teach that. In the works of its ancient and mediaeval students, it demonstrated that the universe is spherical. We must now ask whether, in the pre-Copernican world-view, the center of a sphere was accorded as much worth as the center of a flat surface. In other words: is the geometrical center an axiological center, too? In order to answer this question, we will have to turn to the texts. A far richer and more qualified image will arise than is commonly admitted.

IV. *The exceptions*

Let us begin with the texts that could confirm Freud's contention. The only text from classical antiquity quoted by H. Blumenberg in *Die Genesis der kopernikanischen Welt* in which the central position of the Earth amounts to a

⁹ Hölderlin, *Hyperions Schicksalslied*.

privilege is from Seneca: "That you may understand how she (viz. Nature) wished us, not merely to behold her, but to gaze upon her, see the position in which she has placed us. She has set us in the center of her creation, and has granted us a view that sweeps the universe (*circumspectus*)."¹⁰

At first blush, it looks as if we are reading black on white that man is in the place of honor, and that this place is the center. But a closer look shows that this position hardly redounds to man's advantage. On the contrary. For grammar and in reality, the subject is not man, but nature. What Seneca says is that nature wants to have a spectator, so that she can reveal the plenty of her treasures. The place of man in the middle is scarcely a privilege he could boast of. It bears witness to the almighty producer, nature, who wanted to receive applause and managed her theatre so that her admirers would receive comfortable seats.

As far as my knowledge goes (and it does not go as far as I wish), Freud's contention can be propped up by one text and by one text only. I know of only one mediaeval thinker who confused the two meanings of centrality and grounded an alleged greater worth of man on the fact that his home in the universe, namely the Earth, is located in the latter's center. This thinker lived at the beginning of the 10th century in Bagdad. He was the Jewish theologian and apologist (*mutakallim*) Saadia Gaon (882-942). He becomes interesting for us because he is utterly out of tune with the rest of the mediaeval concert. I quote a passage from his masterpiece, the apologetical tract *Book of Beliefs and of Convictions*:

Though we see that the creatures are many in number, nevertheless, we need not be confused in regard to which of them constitutes the goal of creation. For there exists a natural criterion by means of which we can determine which one of all the creatures is the end. When, then, we make our investigation with this criterion as a guide, we find that the goal is man. We arrive at this conclusion in the following manner: Habit and nature (*binya*) place whatever is most highly prized in the center of things which are themselves not so highly prized. Beginning with the smallest things, therefore, we say that it is noted that the kernel lodges inside of all the leaves. That is due to the fact that the kernel is more precious than the leaves, because the growth of the plant and its very existence depend upon it. Similarly does the seed from which trees grow, if edible, lodge in the

¹⁰ *De Otio* V, 4, in Seneca, *Moral Essays*, with an English translation by J.W. Basore (Loeb, 1932), vol. 2, p. 191. In my opinion, Blumenberg ascribes too great an importance to this passage. According to him, it is typical of the Stoics in general (see Blumenberg, *op. cit.*), p. 27; see also pp. 106, 208, 234, 433, 647, 728; see further Id., *Die Legitimität der Neuzeit*, (Frankfurt a. M.: Suhrkamp, 1988), pp. 300, 324. The essay by G. Aujac, "Stoïcisme et hypothèse géocentrique," in *Aufstieg und Niedergang der römischen Welt*, II, 36, 1, 1989, pp. 1430-1453, furnishes us with a general sketch of stoic doctrine. She shows how important it was for the Stoics that cosmology be grounded on a rational order and not on chance. But she says hardly anything about the importance or lack of importance of the earth's central situation.

center of the fruit, as happens in the case of the nut. But even if a tree grows from an inedible kernel, this kernel is located in the center of the fruit, as is the case of the date, no attention being paid to the edible portion, which is left on the outside to preserve the kernel. In the same way is the yolk of the egg in the center, because from it springs the young bird and the chicken. Likewise also is the heart of man in the middle of his breast, owing to the fact that it is the seat of the soul and of the natural heat of the body. So, too, is the power of vision located in the center of the eye because it is by means of it that one is able to see. When, therefore, we see that this situation appertains to many things and then find the earth in the center of the heaven with the heavenly spheres surrounding it on all sides, it becomes clear to us that the thing which was the object of creation must be on [om. v.l.] the earth. Upon further investigation of all its parts we note that the earth and the water are both inanimate, whereas we find that the beasts are irrational. Hence only man is left, which gives us the certainty that he must unquestionably have been the intended purpose of creation.¹¹

Thus, we have in Saadia and, apparently, in Saadia only, a clear example of an anthropocentrism grounded on a geocentric cosmology. Let me first underline some points:

- 1) Saadia does not support a naively teleological world-view. This is shown by what he explains, not without some emphasis, about fruits, like dates or apricots, the aim of which is to be looked for in the kernel, not in the edible rind, and which is not edible for man. Natural phenomena are not seen from the point of view of human use, but in themselves.
- 2) The cogency of the reasoning is somewhat undermined by a unavowed shift in the criterion. Saadia begins with the thesis, gained by way of induction, that nature puts what is more important in the center. In this way, he can make plausible that in the universe, too, we have to look for what is most precious in the center. This should lead us to surmise that the Earth is the jewel of the universe. But when Saadia looks at the Earth, he silently gives up his criterion of centrality and introduces a second point of view, i.e. life. This enables him to discard the elements, because they are lifeless. Finally, he adds a third criterion, or reason. This enables him again to discard the animals on behalf of man alone. The criterion of centrality would not suffice. It is not enough, when what must be proved is the greater worth, not of the Earth, but of man. The alternative reading I mentioned above ("the Earth" instead of "on the Earth") may be the trace of the misgivings

¹¹ Arabic in *Sefer han-nibkhar be-emunôt u-we-de'ôt le-rabbenu Sa'adia ben Yoseph Fayyumi* (...), Arabic original and Hebrew translation by Joseph Qāfīḥ (Jerusalem: Sura, n.d.), 15-352 pp., 4th treatise, Introduction, pp. 150f. We find the same idea in the general introduction, but no reason is given there. See § 5, p. 21, and ch. IX, § 1, p. 261.

that dawned on the mind of some copyist, who wanted to simplify Saadia's argumentation.

Furthermore, we will have to point out, on the other hand, that Saadia's contention did not remain unchallenged. On the contrary, later thinkers blamed him for according too much worth to man. They did that without their pulling their punches.¹² The most famous—and at the same time the most outspoken—of Saadia's critics was probably the highly learned globe-trotter and Biblical scholar Abraham ibn Ezra (1092-1167), whose rationalistic cast of mind is well-known. The clearest passage I could find is a long digression in the second version (*shittah akhereth*) of his commentary on the Torah, more precisely in his commentary on the first verse of *Genesis*. The context is a general critique of anthropomorphism, and especially of the idea according to which man is more worthy than the angels—a critique that we can find elsewhere in Ibn Ezra.¹³ He mentions the tiny size of the Earth. In the universe, it is hardly more than a geometrical point, i.e. a point without dimensions. He then submits Saadia's two examples (the core in the apple and the yolk in the egg) to harsh criticism:

The argument he mentions, i.e. that what is most worthy in the fruit of the apple-tree is the pip, which maintains the species, is no proof either. For this (viz. the apple) is a compound, which the heavens are not. Moreover, the fruit of the apple-tree is more worthy when it comes to actual existence than what is potentially. What he (Saadia) contends, that the chick comes to being from the red part of the egg, i.e., from the yolk, is false, because the yolk is a food for it.¹⁴

We can distinguish three arguments in Ibn Ezra's critique:

- a) We must tell compound things from simple ones. What holds for the former does not necessarily hold for the latter. In realities that are all in one block, like heavens, it does not make sense to distinguish between the aim and the means towards it.
- b) Even if we stick to fruit as an example, we should reverse the order of value that Saadia supposes. For the core, that contains the fruit only potentially, cannot be the final aim.

¹² See references in H. Malter, *Saadia Gaon. His Life and Works* (Philadelphia: The Jewish Publication Society of America, 1921), pp. 212f., n. 485. This extremely rich footnote devotes more attention to whether the ultimate goal and peak of creation was man or the angels or the celestial bodies. The problem of the central position of the earth is dealt with in the margins only.

¹³ *Commentary to the Torah*, ed. Weiser (Jerusalem: Mosad Rav Kook, 1976), Preface to *Genesis*, pp. 7f.; on *Genesis*, 1, 1, p. 12; on *Exodus* 23, 25 (vol. 2, p. 164).

¹⁴ *Ibid.*, p. 156, 27-30, then p. 156, 11-157, 27, quotation p. 157, 11-15.

c) In the case of the egg, the yolk, that undoubtedly lies in the middle, is not the seed, but some sort of pantry for the chick.

Unfortunately, Ibn Ezra's critique does not deal with the relationship between the central position of a thing and the increased worth it is supposed to possess. This is all the more surprising in that he could have poked fun at Saadia without the slightest difficulty. The latter relies on the principle that the content is more important than the container. Now, this principle is diametrically opposed to another, more commonly admitted principle, i.e. the container is more worth than its content.¹⁵ By not remaining with this principle, Saadia gave critique an easy opening.

V. *Geometrical and axiological centrality*

Saadia remained an exception. The world-view that dominates his epoch, and that his opponents relied upon, was completely different. All mediaeval thinkers shared the same cosmological scheme. Early Antiquity did not possess such a thing as a unified world-view. Several ways of conceiving the physical universe opposed one another, without any one being predominant.¹⁶ Late Antiquity, on the other hand, could agree on a received model of the world and transmit it to the Middle Ages. This model was the common background of human experience of the physical universe up to the 17th century. In the Middle Ages, it was accepted by the clerics and, as far as one can judge, by lay people as well.¹⁷

In a nutshell, this model is an onion-like structure of concentric spheres. The medieval world borrowed it for the most part from Eudoxus and Aristotle, barring some technical corrections we owe Ptolemy. Aristotle had explained, in his treatise *On the heavens*, that the Earth, although it is located in the geometrical center of the universe, does not deserve the dignity that becomes what occupies the central position in human affairs. In an astronomical context, the center is the very opposite of a place of honor. In the frame of a polemic against the Pythagoreans, according to whom fire, the noblest of all elements, should have the most dignified place, i.e. the center, Aristotle carefully distinguishes two acceptions of centrality: the center as a merely geometrical concept on the one hand, and the middle as the ontological

¹⁵ See Aristotle, *De Caelo*, II, 13, 293 b 13f. and Servius, *Commentary to the Aeneis*, I, 381 (= SVF 2, 559).

¹⁶ See "Greek Cosmologies," in G.E.R. Lloyd, *Methods and Problems in Greek Science*. Selected papers (Cambridge: University Press, 1991), pp. 141-163, esp. p. 151.

¹⁷ See Ch.-V. Langlois, *La connaissance de la nature et du monde au Moyen Age d'après quelques écrits français à l'usage des laïcs* (Paris: Hachette, 1911), esp. pp. 78, 155, 349.

heart or core of a thing on the other hand, are not to be mistaken for one another.¹⁸

The thinkers who belong to the Aristotelian tradition remained faithful to the Master. First of all, the Commentators. I will quote from their works, instead of once more copying the well-known and easily accessible text by Aristotle. In the 3rd Century, Themistius takes up the distinction between the true core of a living being on the one hand and the geometrical center of its body on the other hand. He gives us an example: the geometrical center of an animal is its liver; its “substantial middle” (*emtsa*’ *’atsamiy*), its most dignified part, is the life-force or, if one prefers, the heart. In the 6th century, Simplicius gives another example, and continues:

This is the way of the universe as a whole: in so far as the middle part is the middle of a magnitude and of a spherical body, the center (*kentron*) is the middle (*meson*). But in so far as <the middle> is what is most dignified and analogous to the heart, we have to look for anything else as being the middle. Therefore, the middle is not the center. The middle is the sphere of the fixed stars, which is ground of being for the universe, because it draws the other spheres after itself and encircles the whole of bodily nature. There should people have looked for what is most worthy.¹⁹

Clearly, what is most remarkable in the text by Simplicius is his surprising distinction—we almost rub our eyes—between “center” and “middle.” The “middle” is not the “center,” but the periphery. This distinction may look stupendous. But it remained canonical for centuries.²⁰ We will have to look at it again and at the highly paradoxical reversal that takes place between the center and periphery, a reversal that is the consequence of the one mentioned above.

VI. *The world topsy-turvy*

This idea is very beautifully expressed in a text by Maimonides, in a passage that is interesting for many reasons. First, because it probably has Saadia in view, although the *mutakallim* is not named. Second, and more decisively, the common medieval attitude towards the central position that I am trying

¹⁸ *De Caelo*, II, 13, 293 ab.

¹⁹ On II, 13, 293 b 6, CAG, V, 4 (1902), p. 83, 11-13 Heb. = 124, 23-26 Lat.; CAG, VII (1894), p. 514, 13-18.

²⁰ See *Rasā’il Ikhwān aṣ-Ṣafā’*, II, 2 (16), ed. Bustanī, Beirut, 1983, t. 2, p. 30; Averroes, *Commentary on the De Caelo*, II, iv, 1, C74, p. 148 A-G, ed. Juntina, 1564; Albert the Great, *De Caelo et Mundo*, ed. P. Hassfeld (*Opera Omnia*, V, 1; Münster, 1971), II, 4, 1, pp. 179-181. Same distinction in Chalcidius, *Commentary on the Timaeus*, § C, pp. 151f. Waszink, from Theon of Smyrna, *Necessary mathematical knowledge for the reading of Plato*, pp. 187f. Hiller.

to bring out is not only shouldered, but lifted up to the level of reflective consciousness. In this way, Maimonides reverses the common analogy between animals (the microcosm) and the physical universe (the macrocosm). I quote from his philosophical masterpiece:

The heart of every living being possessing a heart is in its middle; thus the other ruled parts surround it wholly in that it is protected and safeguarded by them in such a way that harm coming from outside cannot rapidly reach it. Now in the world as a whole, the position is the opposite. Its nobler part surrounds its inferior part, for the former is secure against receiving an influence from what is other than itself. And even if it were capable of receiving such an influence, it would not find outside itself another body that could influence it. Accordingly, this part occasions an overflow into what is inside it, whereas no influence reaches it in any respect nor any force deriving from bodies other than itself. With regard to this point there is also a certain similarity. For in the living being, a part is less noble than other parts to the extent to which it is far off from the ruling part, whereas other parts are nearer to the latter. The position in the world as a whole is the same. For whenever the bodies are near the center, they grow dimmer and their substance coarser, and their motion becomes more difficult, while their light and transparency disappear because of their distance from the noble, luminous, transparent, moving, subtle, and simple body—I mean heaven. On the other hand, whenever bodies are near the latter, they acquire some of these characteristics because of their proximity to it and achieve a certain superiority over what is lower than they.”²¹

This reversal of perspectives has as a consequence that “being far” is felt as a property of the human observer and not so much of the distant stars, as modern man spontaneously thinks and feels. Vis-à-vis the heavenly bodies as a vantage-point, man is literally a “being of farness”: “living at the end of the Whole, and farthest from them (i.e. real things), we have a gross and defectuous perception.”²² In the 12th Century, the same feeling of distance, arising from the same reversal of perspective, was expressed by Alain of Lille (Alanus de Insulis) by means of a very interesting image. The world is compared with a city. In the center is the king’s palace. Its equivalent in the universe are the fiery heavens (*caelum empyraeum*). The citizens live in the various districts of the city. Their equivalent in the cosmos are the celestial bodies and the spirits that rule them. As for man, “he is like an immigrant (*alienigena*), who lives in a suburb (*suburbium*) of the world.” We human beings, far from living in the middle part of the city, live outside of its walls, in the suburbs, not to say in the slums, like immigrants. C.S. Lewis, who quotes

²¹ *The Guide of the Perplexed*, I, 72, (103 b 16-104 a 9 Munk), Translation S. Pines (Chicago: University of Chicago Press, 1963), p. 192.

²² Proclus Diadochus in *Platonis Timaeum Commentaria*, ed. E. Diehl (Leipzig: Teubner, 1903), vol. 1, pp. 351, line 30 – 352, line 2.

the text, sums up the idea: "the Medieval Model is, if we may use the word, anthropoperipheral. We are creatures of the Margin."²³

In this context, another passage by Dante is very helpful. It shows that medieval thinkers were conscious of the inversion of the relationship that obtains between the center and the periphery. In the *Divine Comedy*, the heavenly tourist contemplates the powerful spectacle of a circular structure in the center of which is the throne of God. Now, this image is meant to symbolize the spiritual world, in so far as it is mirrored by the sensible world. Dante cannot behold this spectacle without some surprise. He points out to his guide something he considers as self-evident, but that he is reluctant to mention, as if it were too pedantic. Is it not the case that, as a rule, what is most worthy is not in the center, but on the periphery? He explains: "in the world of senses, one can say that the spheres are all the more divine, that they keep aloft from the center."²⁴ The world of God reverses what holds true for the physical universe. By so doing, however, it brings back a situation that the latter itself reversed.

VII. *The center as down*

Among philosophical writers who neither followed Aristotle nor commented upon him, we find quite an analogous way of looking at the center.

For them, "in the center" means first and foremost "down." We find such an identification clearly expressed by Plotinus:

The upper parts of every living thing, the face and the head, are more beautiful, and the middle and lower parts are not equal to them; but men are in the middle and below, and above are heaven and the gods in it; and the greatest part of the universe is gods and all the heaven around it; but the earth is like a central point even in comparison with only one of the stars.²⁵

This passage contains the most important themes that I will have to deal with from now on, and first of all the identification of the center with what is "down." In order better to understand that, we have to take our bearings from a fact in stereometry: when a point is the center, not of a flat figure, but of a three-dimensional body like a sphere, it is at the same time its most inner point. In the case of the sphere of the universe, the periphery is what is located in the direction "up." Therefore, what is most inward is the lowest point as well. Furthermore, it is not only relatively "down," but

²³ *De planctu naturae*, Prosa, III, 108f., PL 210, 444 ab (Lewis, *DI*, p. 58).

²⁴ *Paradise*, 28, 49-51. We find an analogous image in Theresa of Avila, see Hallyn, *op. cit.*, p. 149.

²⁵ *Enneads*, III, 2 [47], 8, 2-7 (p. 279 Henry-Schwyzler).

absolutely so, since every point of the periphery is “up” with respect to the center. We find this idea in Macrobius: “in a sphere, only what is in the center can be said with certitude to be down.”²⁶

For ancient and mediaeval thinkers, the part of the pre-Copernican universe that we would spontaneously call its “center” is in fact “down.” For them, this term is more precise and exact, not only for the scientific reason of astronomers, but for poetical imagination too. Many people have pointed this out, e.g. C.S. Lewis.²⁷ We find this identification of what is central with what is low under the pen of several thinkers, although they convey the idea more or less clearly.

Let me quote some examples, in a purely logical order:

1) the Stoics: “below the moon <is> the <sphere> of air, which is carried by her (?), then the sphere of water, and finally the sphere of earth. The latter is in the central point (shmeion) of the universe, point which lies underneath of the Whole, whereas what is “above” is what comes from it up to what circles <around it> in every direction.”²⁸

2) the geographer al-Bîrûnî: “in the center of the sphere lies the earth, but this center is in fact the lowest part.”²⁹

3) Pliny the Elder: “in the universe, the earth is what is lowest, hence what is most central”³⁰—an interesting passage, because it inverts the relationship of the two concepts.

4) William of Conches (a writer inspired by Plato from the first half of the 12th century): “earth is an element that lies in the center of the world, hence quite down. For the world is such as to resemble an egg: the earth lies in the middle part, like the yolk in the egg; around it lies the water, like the white around the yolk; around it lies the air, like the film that contains the white.”³¹

²⁶ *Commentary on the Somnium Scipionis*, I, 22, 4, p. 91 Willis: “in sphaera vero hoc solum constat inum esse quod medium est.” Same idea in Abraham bar Hiyya (about 1130), *Hegyon han-nefesh ha-’atsumah*, III, ed. G. Wigoder, Mosad Bialiq, Jerusalem, 1971, pp. 101f. The text is interesting, among other things, because it contains the first occurrence of the Hebrew word for “center,” *merkaz*.

²⁷ Blumenberg, p. 40. See Lewis, *DL*, pp. 98f., Hallyn, p. 146.

²⁸ Arius Didymos, in Diels, *Doxographi Graeci*, p. 466, 14-17 (= *SVF* 2, 527, p. 169). Same idea in *SVF* 2, 557, end (Cleomedes).

²⁹ *Elements of Astrology*, trans. Ramsay Wright (London, Luzac, 1934), p. 34 (*non vidi*)—quoted in S.H. Nasr, *An Introduction to Islamic Cosmological Doctrines*. Conceptions of Nature and Methods used for its Study by the Ikhwan al-Safa’, al-Bîrûnî and Ibn Sînâ (Cambridge, Mass.: The Belknap Press of the Harvard U.P., 1964), p. 139.

³⁰ *Natural History*, II, iv, 5 (§ 11).

³¹ *Elementa Philosophiae*, III (PL 90, 1167), quoted from Klaus Bernath, “Thomas von Aquin

Whenever a thinker from late Antiquity or the Middle Ages draws a sketch of his world-view, the earth lies at the bottom, at the farthest boundary of Being. Earth lies in the remotest point that divine liberality can reach and upon which it can bestow its gifts: "all the godly powers, that have their beginning from upwards (*anōthen*), and procede through the adequate mediators, go down to the most extreme places, to the realm of the earth."³² It is no longer necessary to mention that the earth's position is central. It is enough to say it is down.

In a word: the "downness" of the earth is more important than its centrality. This is the case, e.g. in Avicenna. When he wants to give us a brief sketch of the physical universe, the first idea that comes to mind is not that we, mankind, lie in the center of everything, but that we are "beneath everything."³³

We can now borrow a provisional conclusion from A.H. Armstrong. In a footnote to his translation of the passage by Plotinus I quoted above, he writes: "Geocentric cosmology did not lead the ancient astronomers and philosophers to a man-centered view of the universe, an exaggerated view of man's importance in the scheme of things. It led them rather to stress his smallness, insignificance and lowly position in the cosmic order."³⁴

In such a cosmology, the center can be looked at from two different points of view that do not exclude one another. For scientific astronomy, the earth is so small that its dimensions can be left out of the equations. This center is a mathematical point, deprived of any special dignity.³⁵ But, more concretely, we can also look at it as the lowest point. As a consequence, what lives at this point must be systematically downgraded. This holds first for the element that is brought downwards by its own weight, i.e. the element of earth, the coagulation of which is the earth as physical body, what we call now our planet.

und die Erde," in A. Zimmermann and C. Kopp, eds., *Miscellanea Mediaevalia*, vol. 19, Thomas von Aquin. Werke und Wirkung im Licht neuerer Forschung (Berlin/New York: De Gruyter, 1988), pp. 175-191.

³² Proclus, *Elements of Theology*, § 140; see also Maximus of Tyr., *Dissertations*, XVII, 12, in F. Dübner, ed., *Theophrasti Characteres* (...), (Paris: Didot, 1877), p. 70.

³³ "Notes on Aristotle, Metaphysics, Lambda," in A. Bâdâwî, *Aristû 'inda l-'Arab*, Kuwait, 1978 (3d ed.), p. 33, 14.

³⁴ Plotinus, *Enneads*, coll. Loeb, vol. III, p. 69, n. See as well Farquharsons edition of Antoninus, vol. 2, p. 595 and the references there.

³⁵ See e.g. Chalcidius, *Commentary on the Timaeus*, in Lewis, *DI*, p. 55 and § C, p. 151, lines 12ff., quoted from S. Gersh, *Middle Platonism and Neoplatonism, The Latin Tradition* (Notre Dame, IN: Notre Dame University Press, 1986), vol. II, p. 480.

VIII. *Earth as the coarsest element*

This downgrading of the earthy element is to be found everywhere. Let us content ourselves with three examples drawn from the pagan, the Muslim and the Christian worlds:

a) In his commentary on Plato's *Timaeus*, Proclus writes: "in the Universe, what is last (farthest) is the middle (*to meson*), which is surrounded from everywhere by godlier beings. What is most material (*enhylolaton*) and grossest (*pakhutaton*) was put in the middle by <divine> craftsmanship (*demiurgia*)."³⁶

b) In their "Encyclopaedia" of popular philosophy, the so-called "Brethren of Purity" of Basra give us a compendium of what the learned man of the IXth-Xth Century was meant to know. They comprehend the structure of the universe as a heap of layers, in which the earth is at the lowest point: "the earth is the center. It has the coarsest and most compact substance of all bodies (. . .). It is the coarsest and most obscure of all bodies, because it lies so far from the all-encompassing sphere."³⁷

c) In his Commentary on Aristotle's *On the Heavens*, Thomas Aquinas writes: "in the same way as, in the universe, earth—that all the spheres encircle and that, as for place, lies in the center—is the most material and coarsest (*ignobilissima*) of all bodies, in the same way the last sphere is most formal and noblest; further, among the elements, fire is what deserves the nature of a container and of a form."³⁸

One way to realize this downgrading of the earth is to show that "downwards" is the direction in which all heavy bodies fall. Little wonder, then, if earth, among all the elements, is the coarsest, the most compact and opaque. Little wonder, too, if earth as our abode draws towards itself all that is coarse in the universe, so that it becomes something like a cosmic dustbin. We can see that very clearly in a cosmogonic text by Macrobius:

. . . lastly, as a result of the downward rush of matter, there was that vast, impenetrable solid, the dregs and off-scourings of the purified elements, which had settled to the bottom, plunged in continual and oppressing chill, relegated to the last position in the universe, far from the sun. Because this became so hardened it received the name *terra*.³⁹

³⁶ Proclus Diadochus in *Platonis Timaeum Commentaria*, *op. cit.*, p. 155, lines 10-12.

³⁷ *Rasā'il Ikhwān as-Safā'*, III, 1 (32), t. 3, pp. 187 & 197. German translation in S. Diwald, *Arabische Philosophie und Wissenschaft in der Enzyklopädie Kitāb Ihwān as-Safā'* (III), Die Lehre von Seele und Intellekt (Wiesbaden: Harrasowitz, 1975), pp. 65 and 99.

³⁸ *Commentary to Aristotle's De Caelo* (1272 s.), II, xiii, 1 & xx, n. 7, in vol. 3, p. 202 b of the Leonina.

³⁹ *Commentary to the Somnium Scipionis*, I, 22, 6, p. 92 Willis (Lewis, *DI*, pp. 62f.). I quote the

We could also quote an anonymous neo-Pythagorean cited by Photius: "It is necessary that what is worst should be located in the worst place, which contains the earth, because earth has the rank of a bottom with regard to the universe, hence, is fit to receive its dregs."⁴⁰

Here an important metaphor is introduced in the image of the dregs that settle at the bottom of a bottle or of a barrel. It enables us to imagine how a coarse matter must necessarily fall to the lowest point of reality. This image had numerous offspring. It is sometimes utilized to express the general law of a world-view, in which the universe is a structure of concentric spheres. This is the case, for instance, in a passage by Miskawayh (+ 1030), a Persian humanist and scholar; "Each of these spheres is, when we compare it with the sphere that overlies it, like dregs and an impurity for it."⁴¹

Nevertheless, we find the image most frequently when the earth is dealt with, and especially in older times. This is the case, e.g., in Stoic texts, that may contain the oldest examples of the image. They call the earth a "settling" (*upostathme*) of the humid.⁴² But it is to be found, at a far later date, and with some emphasis, in a Jewish book of spirituality from the 14th century that belongs to the literary genre of the "de contemptu mundi," the *Behinat ha'olam* ("Examination of the world") by Yedaya Penini, a Jew of Beziers (1270-1340): "the earth is in their center (sc. in the middle of the heavenly spheres), as a low cave into which all the refuse of the natural beings (?) and all their rottenness are thrown away."⁴³

As for the Christian Albert the Great, he does not hesitate, in a context that reminds us of the passage by his pupil Aquinas we quoted above, to make use of a still stronger image: "among the simple bodies, the earth is like an excrement (*faex*), whereas fire, among the elements, is the noblest and the most form-like of all."⁴⁴

Such metaphors are the background of the doctrine that Kant ascribes to an unnamed "Persian wag," according to whom the earth is the lavatory of the whole world.⁴⁵

translation by W.H. Stahl, Macrobius, *Commentary on the Dream of Scipio* (New York/London: Columbia U.P. 1952), p. 182.

⁴⁰ *Anonymus Photii*, cod. 249, in *The Pythagorean Texts of the Hellenistic Period*, collected and edited by H. Thesleff, Abo Akademi, 1965, p. 239, 11-13.

⁴¹ Miskawayh, *Le Petit Livre du Salut*, ed. S. Udeymah, French translation by R. Arnaldez (Tunis: Maison arabe du livre, 1987), p. 100 s. (Arabic) and p. 61 (French).

⁴² See *SVF* I, § 105 = Diogenes Laertius VII, 137. The image occurs as late as the 15th century in Joseph Albo, *Sefer ha-Iqqarim*, IV, 23, p. 208 Halkin.

⁴³ Jedaiah b. Abraham Bedersi, *Behinat ha'olam*, IV, xii, 10, ed. M. Frank-Kamenietzky, Vilna, 1879, p. 46.

⁴⁴ *De Caelo*, (. . .), I, i, 6, pp. 16, 27-29.

⁴⁵ *Das Ende aller Dinge*, Akad. Ausg., VIII, p. 331, n. The source is not indicated either by Kant or his editors. We find a similar story in Voltaire's "Le sottisier," s.v. "Mahométisme,"

IX. *Man in a dungeon*

As a conclusion, the place occupied by the earth is not a place of honor, but a place of humility. We find this idea clearly expressed, e.g. in Bede:

The earth, that lies in the center or the pole of the world, like the heaviest body, occupies among the created beings the humblest and most central place (*humillimum* (. . .) *ac medium locum* (. . .) *tenet*), whereas water, air and fire, thanks to the lightness of their nature and thanks to their position, transcend them in the hierarchy that goes upwards.⁴⁶

"Humble" and "central" are the same. We understand how much the idea of a privilege of the center is misleading.

The position of the earth has unpleasant, nay humiliating consequences for its inhabitants. This is what Cicero writes:

Again, do we not understand that everything in a higher position is of greater value, and that the earth is the lowest thing, and is enveloped by a layer of the densest kind of air. Hence, for the same reason, what we observe to be the case with certain districts and cities, I mean that their inhabitants are duller-witted than the average owing to the more compressed quality of the atmosphere, has also befallen the human race as a whole owing to its being located on the earth, that is, in the densest region of the world.⁴⁷

Cicero alludes to the climatic theory according to which finer air, e.g. in Attica, was supposed to produce clever people, whereas the coarser air of Thebes was responsible for the proverbial dumbness of her denizens. If we apply this theory to the situation in the universe, it follows that men in general are, because of their situation on the earth, the philistines of the universe.

The central position of the earth is not only no place of honor for herself. It is a place of shame and contempt for her inhabitants. We have just seen that, according to Alain of Lille, man does not live in a very fashionable district.⁴⁸ Now, the image is all the more interesting that Alain—and this is a detail that C.S. Lewis did not point out—continues on to draw a comparison that reminds one strongly of Plato. As is well known, Plato, in the *Timaeus*, draws a parallel between the three parts of the soul and the three parts of the human body. Along the same line of thought, Alanus,

in "Supplément aux oeuvres en prose," *Oeuvres Complètes* (Paris: Garnier, 1880), vol. XXXII, p. 515.

⁴⁶ *De nature rerum*, ed. Ch.W. Jones/Fr. Lipp (Corpus Christianorum, Series Latina, 123 A, Tournai, 1975), § XLV, p. 228, lines 6-9.

⁴⁷ Cicero, *De natura deorum*, II, vi, 17 (Lovejoy, p. 344, n. 6). See the parallel passages in A.S. Pease's footnotes to his edition, pp. 592f.

⁴⁸ See above, p. 198 and n. 23.

who had read Chalcidius' *Commentary on the Timaeus*, compares the Acropolis with the head, the abode of reason in man. 'The middle part of the city corresponds to the heart, the place of spiritedness (qumoV) in man, and of the angels in the world. Finally, the suburbs, in which the desires are housed, correspond to what he tactfully calls the loins (*renes*). But, if we follow the logic of Plato's comparison, we understand that we live in the intestines of the universe.

Much later, we find an analogous idea in a far rougher clothing, in Ibn Tufayl (+ 1185). In his *Philosophus Autodidactus*, he writes:

What constitutes, in the hollow part of this sphere (sc. the sphere of the moon), the world of coming-to-be and passing-away, plays the same part as the excrements and all kinds of humours of the animals, in which intestines it often occurs that animals are born, in the same way as in the macrocosm.⁴⁹

What Alain only alluded to is fully developed, and with an uncommon vigor. Man is made of excrements, lives on excrements, feeds on excrements. He is on the earth like a dung-beetle on a turd—hardly a flattering comparison.

We will not hesitate to agree that such a situation is humiliating. The outer sphere would suit us far better. This is precisely what is expressed in some lines that are ascribed to al-Farabi by the biographer and doxographer Ibn Abî Oṣaybi'a. A tentative rendering would be:

Brother, pierce the realm of what is vain/and be in the realm of truths.
Our abode is not one in which we linger/and man's being on earth is no marvel.
What are we, if not lines we enter/on a globe, an entering that awaits us.
This one vies with this one for/the smallest and most concise of words.
What encompasses the heavens is what we most deserve/now, how many are crowded together in the center!
(muḥīt as-samawāti awlā binā/fa-kam a 'l-tazāhum fī 'l-markaz).⁵⁰

X. *Staying on the earth and humility*

To live on the earth is humiliating. Now, a humiliation can be passively withstood. But we can actively shoulder it, too, as what enables us to reach the virtue of humility. Generally speaking, we can point out that wherever

⁴⁹ *Ḥayy ben Yaqdhān*, Roman philosophique d'Ibn Thofail. Texte arabe (...) et traduction française (...) par L. Gauthier (Beyruth Imprimerie catholique, 1936), p. 80, lines 10-12 (Arabic) & p. 61 (French).

⁵⁰ *'Uyūn al-anbā fī tabaqāt al-atibbā'* (Beirut: Dar maktabat al-hayat, n.d.), p. 608. Later on, Ibn Bāija ascribes almost the same line as the last one to an otherwise unknown poet by the name of Ibn al-Jallāb: "What encompasses the heavens is what we deserve/how is it, then, that we linger in the center?" (muḥīt as-samawāti awlā binā/fa-mā ā al-īlūd ilā 'l-markaz). See "Letter of Farewell," in Ibn Bajja, *Opera Metaphysica*, M. Fakhry, ed. (Beirut, 1968), p. 121.

humility is praised and preached in various ways, cosmological considerations are not uncommon. Man is urged to meditate on his smallness and low position in the universe. In order for this theme to become a commonplace, there was no need to wait for the discoveries made possible by the telescope and that enlarged our knowledge of the physical universe, let alone for Pascal's "eternal silence of infinite spaces." Quite to the contrary, this theme, far from being typically modern, passed from the Middle Ages to modern times almost without any discontinuity. We could take as an example the *Duties of the Heart* by Bahya ibn Paquda, an extremely celebrated Jewish devotional work from 11th century Spain. Although man is for Bahya, as he is by and large for mediaeval thinkers, the final cause of creation, his place in the physical universe is never mentioned as an argument for the great care that God bestows on him. On the contrary, man is almost nothing, when we compare him with the heavenly spheres.⁵¹

In this way, we introduce a new and important theme. In order to do that, we must return once more to the common view, illustrated by Freud. Once it is admitted that the central position is a place of honor, the fact that man lives there gives him a dignity. Now, God has bestowed upon man His grace. According to the Jews and the Muslims, he gave him His Law through the hand of the prophets. According to the Christians, He even consigned His only Son to death on the Cross as ransom for the many. But now, if man, as a consequence of his central position, is already something important because of his very nature, then the economy of salvation is relatively easy to account for. We find this idea, e.g. in a recent and very stimulating work by Kurt Flasch: "The earth was the center of the universe—this made God's care for mankind plausible."⁵² Now, the contrary is true. For medieval man, salvation is surprising. Man's place in the universe is a reason against its plausibility. The question that always returns is: how is it that God could decide to stoop so low?

Let us look at some examples of this idea. Let us begin with the Jews, to be precise with Abraham, son of the great Maimonides, who expresses this idea with great clarity. In the 17th chapter of his *Paths of Perfection*, that deals with the virtue of humility, he writes:

Furthermore, one must regard His statement, exalted be He (sc. God viewed as the author of the Bible) at the end of the verse "That I am the Lord who exercises mercy, justice and righteousness in the earth" (*Jeremy* 9, 23) for that is something the consideration of which conduces necessarily to

⁵¹ *Al-Hidāya ilā farā'id al-qulūb* des Bachja ibn Josef ibn Paqūda (...), ed. A.S. Yahuda (Leiden: Brill, 1912). See II, 6, p. 122, 20 – 123, 21, especially p. 123, 17; VI [chapter on humility], 5, n 2, p. 266, 9; n 5, p. 268, 1-4; VIII, 3, n 18, p. 332, 8-10.

⁵² Kurt Flasch, *Das philosophische Denken im Mittelalter* (Stuttgart: Reclam, 1987), p. 301.

extreme humility, because the earth and what is in it are the least and smallest creatures in comparison with the heavenly world (li-anna 'l-arḡa wa-ma fihâ aqallu 'l-mawfîdât, wa as faruhâ bi-'l-nisbahi li-'l-'âlamî 'l-'alawiyi), wherefore His solicitude for its denizens is surprising.⁵³

A good example of this attitude among the christians is Bonaventura. He wants to show that Christ is the middle (*medium*) of everything in seven ways. The third way is the middle in distance. This middle is the earth. The latter is

round and low, because it lies in the center, and for that reason it must undergo all the influences that come from the heavenly bodies. In the same way, the Son of God did not come only to the surface of the earth. He went down to the center of the earth, that is, to Hell, in order to accomplish Salvation there, through the humility of his Cross, whose form expresses the central situation.⁵⁴

Meister Eckhart, too, introduces a cosmological element in the scheme of his spiritual doctrine. But he transposes the paradox of Incarnation to the level of God's birth in the soul. He integrates this paradox in a dialectical play that transvaluates the values, in the spirit of the Magnificat's "*deposuit potentes und exaltavit humiles*." In his 14th German sermon ("Surge, *illuminare*"), he illustrates this through a strange image:

The earth is what is farthest from the heavens. It (literally: She) is huddled up in a corner, for in its shame it wishes to avoid heavens, that are more beautiful than it, and flees from one corner too another. But where could it stop? If it flees downwards, it comes to the heavens; if it flees upwards, it can't escape them. The heavens run it to the ground in a corner, press their power on it and fertilize it. Why? Because the highest flows in the lowest.⁵⁵

This is quite a powerful description of astronomic sexual harassment. The tone of Sermon 54 is more peaceful: "The masters say that the stars pour all their power into the bottom of the Earth, into Nature and into the earthly element, and that they produce there the purest gold."⁵⁶

The lowest position of the earth is the reason for the presence in it of the most remarkable gifts: precious metals. In the same way, man who humiliates himself draws divine grace so irresistibly to him that it must flow into him.

In these texts, the concept of humility is explicitly underlined: the fact

⁵³ *The High Ways to Perfection*, S. Rosenblatt, ed. (Baltimore: The Johns Hopkins Press, 1938), vol. II, p. 64.

⁵⁴ *Collationes in Hexaemeron*, I, 22, ed. Quaracchi, t. V (1891), p. 333 a.

⁵⁵ Meister Eckhart's *Deutsche Predigten*, vol. 1, pp. 233f. ed. Quint, *Parallels loc. cit.*

⁵⁶ *Loc. cit.*, vol. 2, pp. 551f.

that we dwell on the earth, instead of inspiring us with pride, should induce us to be humble and thankful towards God, who swept man upwards, since He rescued him from his natural indignity through the gift of His Law or through Incarnation. What God vouchsafed man can all the less be taken for granted that there is no special reason why man should have drawn God's attention. On the contrary, man, as a terrestrial animal, should have aroused God's contempt. This idea is not exceptional in the Middle Ages, but it occurs later on as well. We can spot it e.g. in a passage by Schelling. He mentions that "what scandalizes many people, that the abode of man is not those proud children of heavens, that could in some way deem themselves superior to human things, but the low earth. In this context it is written; "to the humble He gives His grace." God has esteemed man so highly that the mere earthly man was enough for Him."⁵⁷

XI. *Heliocentrism as a promotion for Man*

Be that as it may, the same view of the earth remained even after Copernicus published his new, heliocentric, hypothesis. This is the case of Montaigne (1533-1592), who has heard of Copernicus, still. He writes:

Man feels and sees that he is located here, in the mud and the dung of the world, fastened to the worst, most inert and rotten part of the world, in the lowest storey of the house, at the farthest remove from the celestial vault, with animals that, among the three kinds (sc. airy, watery and earthy), have the worst way of life. And in the teeth of that, he imagines he can ascend above the sphere of the moon and put the heavens under his feet.⁵⁸

Up to now, we tried to show, against Freud, that the central position of man was humiliating for ancient and mediaeval man. Let us now try to show this *a contrario*. What happened, then, when the heliocentric theory emerged?⁵⁹ Let us first note that, although its echo in the larger learned public was sensational, it remained modest among professional astronomers, for heliocentrism remained a mere hypothesis, that still had the burden of proof, up to late in the XVIIIth century. Let me leave aside the epistemological problem, in order exclusively to look at the echo the theory aroused.

⁵⁷ *Philosophie der Mythologie*, I, 494, cited in Blumenberg, p. 95.

⁵⁸ Montaigne, *Essais*, II, xii, ed. Villey (Paris: Alcan, 1930), vol. 2, p. 239 (Lovejoy, p. 102 and Lewis, *EL*, p. 3). On this matter, Montaigne does not part company with earlier writers like Boistuaue (quoted in E.M.W. Tillyard, *op. cit.*, pp. 47, 120).

⁵⁹ I can be more concise on that topic, since the reception of Copernicus' hypothesis has already drawn the attention of many scholars. See e.g. H. Oberman, "Reformation and Revolution: Copernicus' Discovery in an Era of Change," in J.E. Murdoch and E.D. Sylla (eds.), *The Cultural Context of Mediaeval Learning* (Dordrecht/Boston: Reidel, 1975), pp. 397-435.

How was the hypothesis experienced? Like a blow? On the contrary, like a flattering promotion. Instead of rotting in a dungeon, man was the happy tenant of a fancy district. Up to now, earthly beings belonged to the smart set, on the same level as the sun.

Even before Copernicus published his hypothesis, heliocentrism was felt as something positive, e.g. by Nicholas of Cusa, for whom the central position of the sun was hardly more than an idea to toy with. He devotes an extra chapter to the rehabilitation of the earth:

It is not true that the earth is more vulgar and inferior. For, although it looks more central with regard to the world, it stands nearer to the pole, for the same reason (104, 19-21) (...). Hence, the earth is a noble star, that possesses its own light, warmth and influx (*influentia*), that are different from what comes from the other stars (105, 23 s.) (...). The influx it receives is no argument that could allow one to conclude that it is imperfect. For it could be the case that, since it is a star, it itself emits an influx, in the same way, on the sun and his realm (...). Since our experience is limited, since we live in the center, towards which the influxes converge, we cannot experience this influx in the other direction (*refluentia*) (106, 22-26).⁶⁰

We have to point out that, from the point of view of our knowledge of reality, our central position is more a hindrance than an advantage—contrary to the text by Seneca we quoted at the beginning.

After the work of Copernicus was printed and published, the alleged human narcissism did not suffer the slightest blow. What really happened is that people asked whether the earth deserved such a place of honor, a place that sets it on an equal footing with the other celestial bodies, nay with the sun. This consequence of the heliocentric idea was not felt as an argument in favor of the new world-view, but as an obstacle against it. In Germany, the reformer Melanchthon objects in 1549 against new astronomers: “*Terram etiam inter sidera collocant*.”⁶¹ Others are more outspoken. The Italian Francesco Ingoli cites a whole series of arguments against Galileo. One only is drawn from the treasure of the “*doctrina theologorum*”: the earth must be in the center of the world, since Hell, the abode of the devils and of the damned, lies in its middle.⁶² As late as in 1648, an Englishman, John Wilkins, still invokes “the vileness of our earth, because it consists of a more sordid and base

⁶⁰ *De docta ignorantia*, E. Hoffmann and R. Klibansky, eds. (Leipzig: Meiner, 1932), II, xii, cited in Lewis, *EL*, p. 3 and Blumenberg, p. 293.

⁶¹ *Initia doctrinae physicae* (1549), ch. XX, “Quis est motus mundi” (*Corpus Reformatorum*, XIII (1846), p. 216) (Blumenberg, pp. 379 & 384 n. 99).

⁶² Francesco Ingoli, *De situ et quiete terrae disputatio*, in *Opere di Galileo*, edizione nazionale, Bd. V, S. 408. Ingoli may have been influenced by Cardinal Bellarmine, see *Controversia generalis de Christo*, Book V, ch. 10, *Opera Omnia*, Vivès, Paris: Vivès, vol. 1 (1870), p. 418; *Controversia generalis de purgatorio*, II, 6, *loc. cit.*, vol. 3, pp. 109-112. I owe the references to Ingoli and Bellarmine to Prof. William R. Shea (McGill University).

matter than any other part of the world; and therefore must be situated in the center, which is the worst place, and at the greatest distance from those purer incorruptible bodies, the heavens."⁶³

On the other side, we find the same argument, and even the same phrase as was made use of by Melanchthon, but with a positive ring, under the pen of Galileo, a staunch supporter of the Copernican theory. He has his mouth-piece Salviati exclaim:

As for the earth, we try to make it nobler and more perfect, since we endeavour to liken it to the heavenly bodies and, so to speak, to put it back into the heavens, whence your philosophers had banished it.⁶⁴

Conclusion

A scholar whose works I have drawn upon, Paolo Rossi, quotes these two last texts and concludes with a disillusioned note:

It is often useless to cite the texts, and many true statements seem destined to fall in the void when they contrast with the more diffused *idola theatri*. To read the digressions of novelists, essayists, journalists and intellectuals of various kinds after the space projects and the landing on the moon, and to read the pages of many historians and philosophers, it would seem that geocentrism and anthropocentrism have always been indissolubly welded together. The acceptance of the astronomical doctrines of Copernicus' hereby seems to have implied the renunciation of an anthropocentric worldview as such. Lovejoy unsuccessfully devoted many pages of his major historical work to demonstrating the falsity of these associations. In so doing, he called attention to the "diabolocentric" character of medieval cosmology, to the fact that the geocentric cosmology served more to humiliate man than to exalt him, to the fact that Copernicanism was opposed partly because it assigned man a too-lofty abode and transported him into a place not unlike that which is the immutable and immortal fixed heavens.⁶⁵

Since I cherish the faint hope of qualifying these melancholy strains, I have written the preceding.

⁶³ *The Discovery of A New World, or a Discourse tending to prove that it is probable there may be another Habitable World in the Moon* (1638), in *Philosophical and Mathematical Works* (1802), vol. I, p. 190 (Lovejoy, p. 102; in another edition (London, 1638, p. 68) Rossi, p. 137).

⁶⁴ *Dialogo dei due massimi sistemi del mondo* (1632) (*Opere*, edizione nazionale, vol. VII (1897), p. 62, l. 15-18), in Rossi, p. 137.

⁶⁵ Rossi, pp. 137f.